

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (use several sheets if necessary)  (PTO-1449)	ATTY. DOCKET NO.	SERIAL NO.
	19603/3641 (CRF D-933F)	Continuation of 09/480,515
	APPLICANT	
	Francis Barany, John Zebala, Deborah Nickerson, Robert J. Kaiser, Jr., and Leroy Hood	
	FILING DATE Herewith	GROUP ART UNIT To Be Assigned

## U. S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
<i>MML</i>	1	5,242,794	09/07/93	Whiteley, et al.			
	2	4,889,818	12/26/89	Gelfand, et al.			
	3	4,749,647	06/07/88	Thomas, et al.			
<i>↓</i>	4	4,988,617	01/29/91	Landegren, et al.			
<i>MML</i>	5	4,879,214	11/07/89	Kornher et al.			

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		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION IF APPROPRIATE
<i>MML</i>	6	336,731	5 Apr 1989	Europe			
	7	324,616	12 Jan 1989	Europe			
	8	130,515	25 Jun 1984	Europe			
	9	246,864	19 May 1987	Europe			
	10	89/09835	19 Oct 1989	WIPO			
	11	0 320 308	12 Dec 1988	Europe			
	12	2049879	1 March 2001	Canada			
<i>↓</i>	13	EP 0 373 962 A2	20 June 1989	Europe			
<i>MML</i>	14	EP A 0 185 494	25 June 1986	Europe			

## OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

<i>MML</i>	15	Barany, F., et al., "Genetic Disease Detection and DNA Amplification Using Cloned Thermostable Ligase," <i>Proc. Natl. Acad. Sci. USA</i> , 88:189-93 (1991)
	16	Barany, F., et al., "Cloning, Overexpression and Nucleotide Sequence of a Thermostable DNA Ligase-Encoding Gene," <i>Gene</i> , 109:1-11 (1991)
	17	Takahashi, M., et al., "Thermophilic HB8 DNA Ligase: Effects of Polyethylene Glycols and Polyamines on Blunt-End Ligation of DNA," <i>J. Biochem.</i> , 100:123-31 (1986)
<i>↓</i>	18	Takahashi, M., et al., "Note -- Purification of HB8 DNA Ligase by Red Sepharose Chromatography," <i>Agric. Biol. Chem.</i> , 50(5):1333-34 (1986)
EXAMINER		DATE CONSIDERED <i>MML</i> 4/20/05
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<i>MNR</i>	19	Lauer, G., et al., "Cloning, Nucleotide Sequence, and Engineered Expression of <i>Thermus Thermophilus</i> DNA, a Homolog of <i>Escherichia coli</i> DNA Ligase," <i>J. Bacteriology</i> , 173(16):5047-53 (1991)
	20	Lawyer, F.C., et al., "Isolation, Characterization, and Expression in <i>Escherichia coli</i> of the DNA Polymerase Gene from <i>Thermus Aquaticus</i> ," <i>J. Bio. Chem.</i> , 264(11):6427-37 (1989)
	21	Taguchi, H., et al., "A Chaperonin from a Thermophilic Bacterium, <i>Thermus Thermophilus</i> , That Controls Refoldings of Several Thermophilic Enzymes," <i>J. Biol. Chem.</i> , 266(33):22411-18 (1991)
	22	Schalling, M., et al., "Direct Detection of Novel Expanded Trinucleotide Repeats in the Human Genome," <i>Nature Genetics</i> , 4:135-39 (1993)
	23	Caskey, C.T., "Molecular Medicine - A Spin-off From the Helix," <i>JAMA</i> , 269:1986-93
	24	Chariot et al., "Molecular Cloning of a Mutated HOXb& cDNA Encoding a Truncated Transactivating Homeodomain-Containing Protein," <i>J. Cell Biochem</i> , 71(1):46-54 (1998)
	25	Weiss, R., "Hot Prospect for New Gene Amplifier," <i>Science</i> , 254:1292-3 (1991)
	26	Birkenmeyer, L.G., et al., "Mini-Review - DNA Probe Amplification Methods," <i>J. Virol Methods</i> , 35:117-26 (1991)
<i>D</i> <i>MNR</i>	27	Holding, C., et al., "Diagnosis of Beta-Thalassaemia by DNA Amplification in Single Blastomeres from Mouse Preimplantation Embryos," <i>The Lancet</i> pp. 532-535 (1989)

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<i>MML</i>	28	Wu, D.Y., et al., "The Ligation Amplification Reaction (LAR) - Amplification of Specific DNA Sequences Using Sequential Rounds of Template-Dependent Ligation," <i>Genomics</i> , 4:560-569 (1989)
		Takahashi, M., et al., "Thermophilic DNA Ligase Purification and Properties of the Enzyme from <i>Thermus Thermophilus</i> HB8," <i>J. Biol. Chem.</i> , 259:10041-10047 (1984)
	30	Barringer, K.J., et al., "Blunt-End and Single-Strand Ligations by <i>Escherichia coli</i> Ligase: Influence on an in vitro Amplification Scheme," <i>Gene</i> , 89:117-22 (1990)
		Matsuzawa, H., et al., "Purification and Characterization of Aqualysin I (a Thermophilic Alkaline Serine Protease) Produced by <i>Thermus Aquaticus</i> YT-1," <i>Eur. J. Biochem.</i> , 171:441-47 (1988)
	31	Winn-Deen, E.S., et al., "Sensitive Fluorescence Method for Detecting DNA Ligation Amplification Products," <i>Clinical Chemistry</i> , 37(9):1522-23 (1991)
		Landegren, U., et al., "A Ligase-Mediated Gene Detection Technique," <i>Science</i> , 241:1077-80 (1988)
	32	Barany, F., "The Ligase Chain Reaction in a PCR World," <i>PCR Methods and Applications</i> , 1:5-16 (1991)
		Zimmerman, S.B., et al., "Macromolecular Crowding allows Blunt-end Ligation by DNA Ligases from Rat Liver or <i>Escherichia coli</i> ," 80:5852-5856 (1983)
<i>Q</i>	33	Barany, F., "A Genetic System for Isolation and Characterization of <i>TagI</i> Restriction Endonuclease Mutants," <i>Gene</i> , 56:13-27 (1987)
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<i>Mmol</i>	37	Cotton, R.G.H., "Detection of Single Base Changes in Nucleic Acids," <u>Biochem J.</u> , 263:1-10 (1989)					
	38	Konrad, E., et al., "Genetic and Enzymic Characterization of a Conditional Lethal Mutant of <i>Escherichia coli</i> K12 with a Temperature-Sensitive DNA Ligase," <u>Chem Abstracts</u> , 79(13):75781v, pp. 243-44 (1973)					
	39	Hanahan, D. "Studies on Transformation of <i>Escherichia coli</i> with Plasmids," <u>J. Molec. Biol.</u> , 166:557-80 (1983)					
	40	Wu, D.Y., et al., "Specificity of the Nick-Closing Activity of Bacteriophage T4 DNA Ligase," <u>Gene</u> , 76:245-54 (1989)					
	41	Landegren, U., et al. "DNA Diagnostics - Molecular Techniques and Automation," <u>Science</u> , 242:229-37 (1988)					
	42	Xu, Q.-Y., et al., "Microsequence Analysis of Peptides and Proteins," <u>Analytical Biochem.</u> , 170:19-30 (1988)					
	43	Moos, M., et al., <u>J. Biol. Chem.</u> , "Reproducible High Yield Sequencing of Proteins Electrophoretically Separated and Transferred to an Inert Support," 263(13):6005-6008 (1988)					
	44	Matsada, G., et al., "The Primary Structure of L-1 Light Chain of Chicken Fast Skeletal Muscle Myosin and Its Genetic Implication," <u>FEBS Letters</u> , 126(1):111-113 (1981)					
<i>Mmol</i>	45	Lathe, R., "Synthetic Oligonucleotide Probes Deduced from Amino Acid Sequence Data Theoretical and Practical Considerations," <u>J. Molec. Biol.</u> , 183:1-12 (1985)					
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<i>mmml</i>	46	Howard et al., "Cloning the <i>DdeI</i> Restriction-Modification System Using a Two-Step Method." <i>Nucleic Acids Research</i> 14(20):7939-7951 (1986)
	47	Devlin, "Textbook of Biochemistry, with clinical correlations," A Wiley Medical publication, pp. 985-995 (1982)
	48	Zebala et al., "Characterization of Steady State, Single-Turnover, and Binding Kinetics of the <i>TagI</i> Restriction Endonuclease," <i>The Journal of Biology and Chemistry</i> 267(12):8097-8105 (1992)
	49	Davis et al., "Protein Splicing in the Maturation of <i>M. tuberculosis</i> RecA Protein: A Mechanism for Tolerating a Novel Class of Intervening Sequence," <i>Cell</i> 71(1):201-210 (1992)
	50	Perler et al., "Intervening Sequences in an Archaea DNA Polymerase Gene," <i>Proc. Natl. Acad. Sci. USA</i> 89:5577-5581 (1992)
	51	Shively, "Reverse-Phase HPLC Isolation and Microsequencing," in <i>Methods of Protein Characterization. A Practical Handbook</i> , Clifton, New Jersey: Humana Press, pp. 46-49 (1986)
	52	Niece et al., "A Synthetic Peptide for Evaluating Protein Sequencer and Amino Analyzer Performance in Core Facilities: Design and Results," in Hugli, ed., <i>Techniques in Protein Chemistry</i> , Academic Press, Inc., pp. 89-101 (date unknown)
	53	Walsh et al., "Advances in Protein Sequencing," <i>Annual Review of Biochemistry</i> 50:261-284 (1981)
<i>P</i>	54	Matsuda et al., "The Primary Structure of L-1 Light Chain of Chicken Fast Skeletal Muscle Myosin and Its Genetic Implication," <i>FEBS Letters</i> 126(1):111-113 (1981)
<i>mmml</i>	55	Roitsch et al., "High-Performance Liquid Chromatography of Biologically Active Proteins in the Nanogram (Picomole) Range," in Lefkovits, eds., <i>Immunological Methods</i> , Vol. III, Academic Press, Inc., pp. 85-86, 106-107, 274-284 (1985)

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MML	57	5,494,810	02/27/96	Barany et al.	—	—	

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